WHAT IS CLAIMED IS:

1. A semiconductor laser device comprising:

a compound semiconductor substrate; a lower cladding layer;

an active layer;

an upper cladding layer and a contact layer respectively formed on the compound semiconductor substrate, wherein an upper part of the upper cladding layer and the contact layer are formed as a mesa-structured portion having a ridge stripe pattern,;

and a current blocking layer having a pit-like recess penetrating thereof and extending towards the compound semiconductor substrate, the both sides of the mesa structured portion being buried with the current blocking layer, and a portion of the recess other than that penetrating the current blocking layer being covered or buried with an insulating film or a compound semiconductor layer with a high resistivity.

2. A semiconductor laser device as claimed in Claim 1, wherein the insulating film is made of at least any one of SiO_2 film, Al_2O_3 film and SiN film.

3. A semiconductor laser device as claimed in Claim 1, wherein the insulating film is made of a semi-insulating material doped or ion-implanted with boron.

4. A semiconductor laser device as claimed in Claim 1, wherein the compound semiconductor layer with a high resistivity is made of a GaAs layer with a low carrier density.

5. In a method for fabricating a semiconductor laser device having on a compound semiconductor substrate at least a lower cladding layer, an active layer, an upper cladding layer and a contact layer; an upper part of the upper cladding layer and the contact layer being formed as a mesa structured portion having a ridge stripe pattern, and the both side of the mesa structured portion being buried with a current blocking layer, the method comprising steps of:

forming a stacked structure on a compound semiconductor substrate

by epitaxially growing thereon a lower cladding layer, an active layer, an upper cladding layer and a contact layer in this order,

forming an insulating film on the entire surface of the substrate including the wall plane of a pit-like recess penetrating the current blocking layer and extending towards the compound semiconductor substrate,

forming a photoresist film on the entire surface of the substrate, patterning the photoresist film to form a resist mask on the insulating film as well as to fill the pit-like recess with the photoresist film,

etching the insulating film using the resist mask as an etching mask to form an insulating film mask, and then etching the contact layer and the upper cladding layer using the insulating film mask as an etching mask to form a mesa-structured portion having a ridge stripe pattern,

selectively growing, using the insulating film mask as a mask, a current blocking layer thereby to bury the both sides of the mesa-structured portion, and

removing the insulating film mask to expose the contact layer, and then forming an electrode layer on the surface of the substrate including on the contact layer.

6. In a method for fabricating a semiconductor laser device of an edge-emitting type having on a compound semiconductor substrate a lower cladding layer, an active layer, an upper cladding layer and a contact layer; an upper part of the upper cladding layer and the contact layer being formed as a mesa structured portion having a ridge stripe pattern, and the both side of the mesa structured portion being buried with a current blocking layer, the method comprising steps of:

forming a stacked structure on a compound semiconductor substrate by epitaxially growing thereon a lower cladding layer, an active layer, an upper cladding layer and a contact layer in this order,

etching the contact layer and the upper cladding layer to form a mesa-structured portion having a ridge stripe pattern,

selectively growing, using an insulating film mask, a current blocking layer thereby to bury the both sides of the mesa-structured portion,

removing the insulating film mask to expose the contact layer,

and then forming an electrode layer on the surface of the substrate,

forming an insulating film on the entire surface of the substrate including the wall plane of a pit-like recess penetrating the current blocking layer and extending towards the compound semiconductor substrate, and then removing the insulating film from an area other than the wall plane of the pit-like recess, and

forming an electrode layer on the surface of the substrate including on the contact layer.

7. In a method for fabricating a semiconductor laser device of an edge-emitting type having on a compound semiconductor substrate a lower cladding layer, an active layer, an upper cladding layer and a contact layer; an upper part of the upper cladding layer and the contact layer being formed as a mesa structured portion having a ridge stripe pattern, and the both side of the mesa structured portion being buried with a current blocking layer, the method comprising steps of:

forming a stacked structure on a compound semiconductor substrate by epitaxially growing thereon a lower cladding layer, an active layer, an upper cladding layer and a contact layer in this order,

etching the contact layer and the upper cladding layer to form a mesa-structured portion having a ridge stripe pattern,

selectively growing, using an insulating film mask, a current blocking layer with a low carrier density thereby to bury the both sides of the mesa-structured portion and a pit-like recess extending towards the compound semiconductor substrate, and then removing the insulating film mask to expose the contact layer, and

forming an electrode layer on the surface of the substrate including the contact layer.

8. In a method for fabricating a semiconductor laser device of an edge-emitting type having on a compound semiconductor substrate a lower cladding layer, an active layer, an upper cladding layer and a contact layer; an upper part of the upper cladding layer and the contact layer being formed as a mesa structured portion having a ridge stripe pattern, and the both side of the mesa structured portion being buried with a current blocking layer, the method comprising steps of:

forming a stacked structure on a compound semiconductor substrate by epitaxially growing thereon a lower cladding layer, an active layer, an upper cladding layer and a contact layer in this order,

etching the contact layer and the upper cladding layer to form a mesa-structured portion having a ridge stripe pattern,

selectively growing, using an insulating film mask, a current blocking layer thereby to bury the both sides of the mesa-structured portion, and then removing the insulating film mask to expose the contact layer,

forming a resist pattern on the contact layer, and performing ion implantation to the entire surface of the substrate thereby to convert the outermost surface of the wall plane of a pit-like recess penetrating the current blocking layer and extending towards the compound semiconductor substrate into a layer with a higher resistivity, and

removing the resist pattern thereby to form an electrode layer on the surface of the substrate including on the contact layer without annealing.